# FAQs/Questions and Answers

**Pacific Northwest Region –** *Colville National Forest*

## Colville National Forest Bark Beetle Questions and Answers
## October, 2014

**What are Bark Beetles?**

Bark Beetles are small (<¼ inch), naturally occurring, hard bodied beetles that bore through the protective bark of a tree to lay their eggs in the moist phloem (inner bark). These beetles and the larvae they produce feed on this living tissue, cutting off the tree's ability to transport nutrients and typically results in the death of the tree.

**What beetle are we seeing locally?**

Locally we are seeing mainly mountain pine beetle. This beetle is native to the forests of northeastern Washington and attacks primarily ponderosa and lodgepole pine. The beetle especially likes older trees stressed by injury, poor site conditions, overcrowding and root disease. Mountain pine beetle adults fly from May to October, depending on the temperature.

**How can you tell if a tree has been infested by beetles?**

It is typically difficult to tell initially, but once the beetles attack a tree you may begin to see "pitch tubes" or small holes through the bark of the tree with small amounts of reddish brown pitch running down the truck of the tree. You may also see boring dust at the base of the tree if it is water stressed. By the time you notice visually that the needles on the tree are changing color and the crown is beginning to fade or turn brown the beetles have already infested the tree and are likely no longer in the tree and have moved on to another tree.

**Why are the beetles at epidemic levels?**

Forest history and management have influenced recent bark beetle outbreaks. In some areas, over the past century natural disturbances and human activities have produced large areas of host trees that are very similar in size and age, an environment ripe for bark beetle outbreak.

In addition, substantial changes in the climate have occurred in the interior west, such as long duration drought and warmer winters. These changes have altered the beetle's life cycle. The bark beetle is native to the inter mountain west, however certain factors have created an outbreak across western North America that is the largest and most severe in recorded history. Elevated temperatures, particularly when there are consecutive warm years, can speed up reproductive cycles and reduce cold-induced mortality. Shifts in precipitation patterns and associated drought can also increase bark beetle outbreak by weakening trees and making them more susceptible to bark beetle attacks.

**How bad is the outbreak on the Colville National Forest?**

for the greatest good

The Colville National Forest (CNF) is seeing localized areas of outbreaks, but not as severe as many parts of the inter mountain west. The threat to bark beetle on the CNF is primarily associated with older stands of lodgepole pine that are at the end of their lifecycle. The number of acres impacted by bark beetle is expected to increase over time in untreated forest stands. But through increased

collaboration with partners and communities and moving towards larger scale forest restoration, the impacts to human injury and risks to communities and watersheds from disturbances such as insect outbreaks and uncharacteristic wildfires are expected to be reduced.

**How is the Forest Service deciding which areas to treat (remove trees)?**

Protecting human health and safety is the Forest Service priority. The decision to remove trees must take into consideration both the health and safety of the public, as well as that of Forest Service employees. Priorities include: campgrounds, roads and trails that experience high public use; areas adjacent to communities and homes for protection from fire; and coordination of larger-scale projects with other governmental agencies and partners that identify and communicate risks to public safety and leverage treatments across boundaries.

Additional priorities include recovery and forest resiliency. Effective recovery improves watershed health, wildlife habitat and water quality and creates more resilient forests following infestation, as well as provides benefits above and beyond what would be expected if nature was allowed to take its course.

**Can't you just cut down the trees with beetles in them and get ahead of the beetles?**

While active forest management can increase the resiliency of forests not yet infested by bark beetles, cutting trees that show signs of infestation will not keep the beetles from spreading. Bark beetles can fly, and have typically moved on to a new host tree by the time a tree begins to show signs of beetle infestation.

Thinning young stands to decrease the density and creating a diversity of age classes over time can mitigate potential catastrophic beetle losses. Species and age diversity are key elements of a forest's resiliency to insects, diseases and wildfire. Managing for resiliency can reduce the environmental, health and safety impacts of beetle infestation.

**Can trees infested by bark beetle be used by local mills?**

Yes, so long as the trees are harvested before they degrade to the point where it is no longer useful as a forest product. However, the adult beetles can carry the spores of a blue-staining fungus that can grow throughout the tree and discolor the wood. Though the stain has no effect on the strength of the wood, the discolored wood can greatly reduce the value of logs and lumber.

**What is the Colville National Forest doing to treat areas to prevent future bark beetle outbreaks?**

The CNF has a number of projects planned across the landscape of for the next few years. Silvicultural strategies that vary the tree densities in the project areas can improve the resiliency of the trees to future outbreaks. One approach is the low density regime whereby a very open stand is maintained and tree vigor is improved by the reduction in competition for moisture and nutrients. Another approach is the high density regime whereby a fully stocked stand is maintained with multiple commercial thinnings over time. In addition, fuels reduction treatments in the project areas can improve ecosystem health and resiliency.

**Would more money help?**

Many of the areas where bark beetle outbreaks are being reported are in areas that are difficult to access, or are in Roadless Management Areas that prohibit economically viable ground based treatments. The agency has developed a set of priorities to address safety, recovery and resilience to be as responsive as possible within the current budget

environment. The CNF will respond to the highest priority areas first within the budget it is appropriated through Congress and working with our cooperative partners.

**Do beetle-killed trees really represent a greater fire hazard?**

This is an area of some debate. As the infestation moves across the landscape over time, fuel loads and the type of fire risk change. We do know that managing forests to increase species and age diversity reduces the chances of large scale wildfires. Research on the beetle's impact on the fire regime is ongoing, but it is generally accepted th at fire danger may increase during and immediately after outbreaks of bark beetles when the dry red needles are still on the trees.

**What is the Colville National Forest doing to keep forest visitors safe?**

Trees killed by the bark beetle present a risk to visitors from falling dead or dying trees along with the potential for increased fire danger. While it is impossible to completely remove all potentially hazardous trees when outbreaks cover many thousands of acres, the Forest Service is removing beetle-killed trees that provide the greatest health and safety risk. Areas such as campgrounds and trailheads are the priority, and in areas where removal of hazardous trees is not possible those areas will be considered for closure. Forest visitors are encourage d to be aware of their surroundings and to avoid dense patches of dead trees.